

### Remarks

The Office Action mailed September 11, 2006 has been carefully reviewed and the following remarks been made in consequence thereof.

Claims 1-45 are now pending in this application. Claims 1-6, 35, 36, and 38 stand rejected. Claims 7-34, 37, and 39-45 have been withdrawn.

In accordance with 37 C.F.R. 1.136(a), a two month extension of time is submitted herewith to extend the due date of the response to the Office Action dated September 11, 2006, for the above-identified patent application from December 11, 2006, through and including February 11, 2007. In accordance with 37 C.F.R. 1.17(a)(1), authorization to charge a deposit account in the amount of \$225 to cover this extension of time request also is submitted herewith.

The rejection of Claims 1-6, 35, 36, and 38 under 35 U.S.C. § 102(a) as being anticipated by Devreotes et al. (U.S. Patent Application Publication 2002/0048811) (hereinafter referred to as "Devreotes") is respectfully traversed.

Applicants respectfully submit that Devreotes does not describe or suggest the claimed invention. Specifically, Applicants, have demonstrated that a mammalian biosensor can be used for screening for agonist antagonist drugs targeted at mammalian receptors in mammalian cells. Devreotes does not describe or suggest a mammalian biosensor wherein mammalian receptors and known drug agonists and antagonists are utilized for drug screening. Rather, Devreotes describes a biosensor derived from soil amoeba and specific to soil amoeba cells. Specifically, Devreotes describes a method for soil amoeba receptor mediated activation of heterotrimeric G proteins by monitoring fluorescence resonance energy transfer (FRET) between subunits of a G protein fused to cyan and yellow fluorescent proteins. The G protein heterotrimer rapidly dissociates and reassociates upon addition and removal of cognate ligand. Applicants submit that merely describing a biosensor including soil amoeba receptors does not describe or suggest a biosensor including mammalian receptors.

Claim 1 recites a mammalian functional biosensor comprising “mammalian G protein subunits fused to at least one of a cyan fluorescent protein and yellow fluorescent protein respectively and capably enabled for fluorescence resonance energy transfer.”

Devreotes does not describe nor suggest a mammalian functional biosensor as recited in Claim 1. More specifically, Devreotes does not describe nor suggest a mammalian functional biosensor. Rather, in contrast to the present invention, Devreotes merely describes a soil amoeba biosensor.

Accordingly, for at least the reasons set forth above, Claim 1 is submitted to be patentable over Devreotes.

Claims 2 and 3 depend from independent Claim 1. When the recitations of Claims 2 and 3 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 2 and 3 likewise are patentable over Devreotes.

Claim 4 recites a live functional G protein biosensor comprising “a mammalian  $\alpha$  subunit comprising a first amino acid sequence encoding at least one of a first fluorescent or a luminescent protein and at least one of a mammalian  $\beta\gamma$  subunit complex comprising a second amino acid sequence encoding at least one of a second fluorescent and luminescent protein, wherein said first and said second fluorescent or luminescent proteins are at least FRET or BRET capable.”

Devreotes does not describe nor suggest a live functional G protein biosensor as recited in Claim 4. More specifically, Devreotes does not describe nor suggest a biosensor including a mammalian  $\alpha$  subunit. Rather, in contrast to the present invention, Devreotes merely describes a soil amoeba biosensor.

Accordingly, for at least the reasons set forth above, Claim 4 is submitted to be patentable over Devreotes.

Claims 5 and 6 depend from independent Claim 4. When the recitations of Claims 5 and 6 are considered in combination with the recitations of Claim 4, Applicants submit that dependent Claims 5 and 6 likewise are patentable over Devreotes.

Claim 35 recites a live functional G protein biosensor cell or biosensor comprising “a mammalian  $\alpha$  subunit comprising a first amino acid sequence encoding a first fluorescent or luminescent protein is fused to a G protein coupled receptor and a mammalian  $\beta$  or  $\gamma$  subunit comprising a second amino acid sequence encoding a second fluorescent or luminescent protein, wherein the first and the second fluorescent or luminescent proteins are FRET capable and the addition of an agonist for the tethered receptor reduces the FRET signal intensity from these cells.”

Devreotes does not describe nor suggest a live functional G protein biosensor cell or biosensor as recited in Claim 35. More specifically, Devreotes does not describe nor suggest a biosensor including a mammalian  $\alpha$  subunit. Rather, in contrast to the present invention, Devreotes merely describes a soil amoeba biosensor.

Accordingly, for at least the reasons set forth above, Claim 35 is submitted to be patentable over Devreotes.

Claim 36 depends from independent Claim 35. When the recitations of Claim 36 are considered in combination with the recitations of Claim 35, Applicants submit that dependent Claim 36 likewise is patentable over Devreotes.

Claim 38 recites a live functional G protein biosensor cell or biosensor comprising “a mammalian alpha subunit comprising a first amino acid sequence encoding a first fluorescent or luminescent protein, and a beta subunit comprising a second amino acid sequence encoding a second fluorescent or luminescent protein, wherein the first amino acid sequence is fused to the second mammalian beta subunit comprising a second amino acid sequence encoding a second fluorescence or luminescent protein.”

Devreotes does not describe nor suggest a live functional G protein biosensor cell or biosensor as recited in Claim 38. More specifically, Devreotes does not describe nor suggest



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a biosensor including a mammalian alpha subunit. Rather, in contrast to the present invention, Devreotes merely describes a soil amoeba biosensor.

Accordingly, for at least the reasons set forth above, Claim 38 is submitted to be patentable over Devreotes.

For the reasons set forth above, Applicants respectfully request that the Section 102 rejection of Claims 1-6, 35, 36, and 38 be withdrawn.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,

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